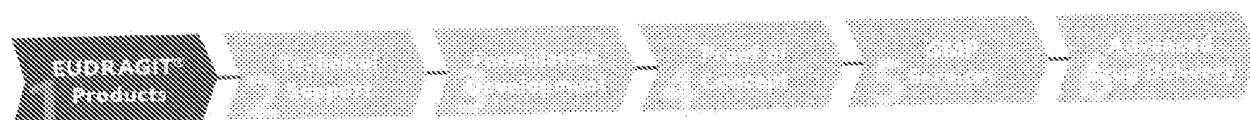
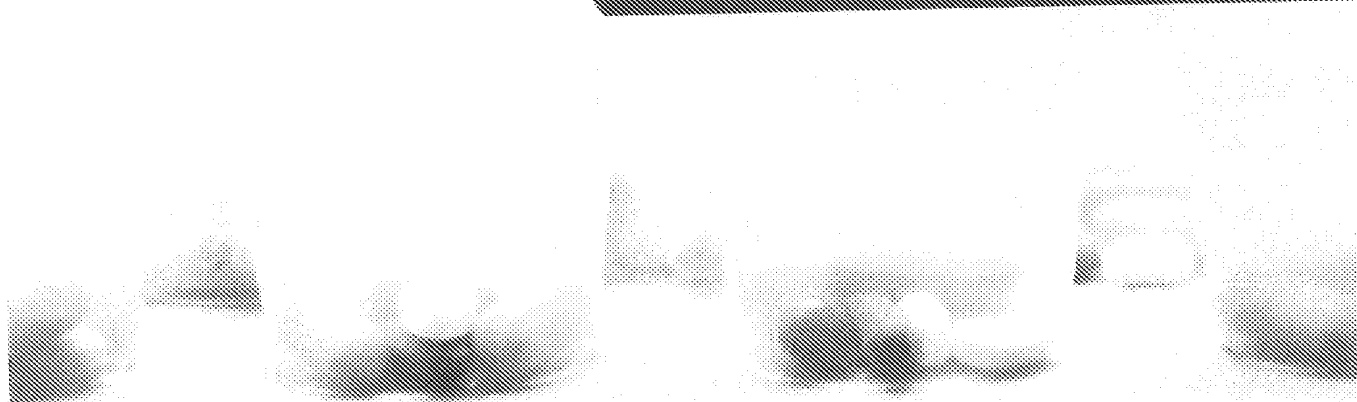
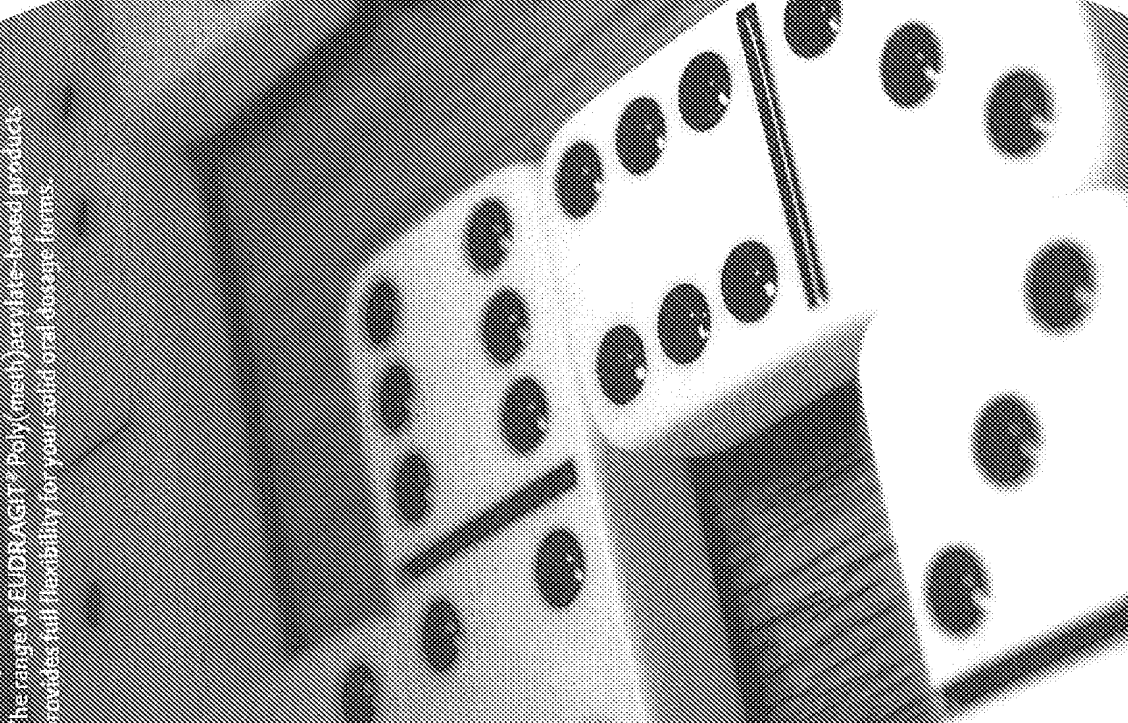


## **EXHIBIT "A"**

# EUDRAGIT®

Acrylic Polymers for Solid  
Oral Dosage Forms





When it comes to targeted drug release profiles, EUDRAGIT® is the pharmaceutical industry's preferred choice of product. The range of EUDRAGIT® Poly(meth)acrylate-based products provides full flexibility for your solid oral dosage forms.

ELURAGIT<sup>®</sup> polymers are copolymers derived from esters of acrylic and methacrylic acid, whose physicochemical properties are determined by functional groups (i.e. ELURAGIT<sup>®</sup> polymers are available in a wide range of different physical forms (aqueous dispersion, organic solution, granules and powders),

2. Poly(meth)acrylates; insoluble but permeable in digestive fluids EUDRAGIT® RL and RS polymers with alkaline and neutral groups enable controlled time release of the active ingredient by pH-independent swelling.

**Applications:** delayed and sustained drug release



## EUDRAGIT® offers valuable advantages for your enteric coatings:

- pH-dependent drug release
- Protection of actives sensitive to gastric fluid
- Protection of gastric mucosa from aggressive actives
- Increase in drug effectiveness
- Good storage stability
- GI and colon targeting

## Gastroresistance and GI Targeting

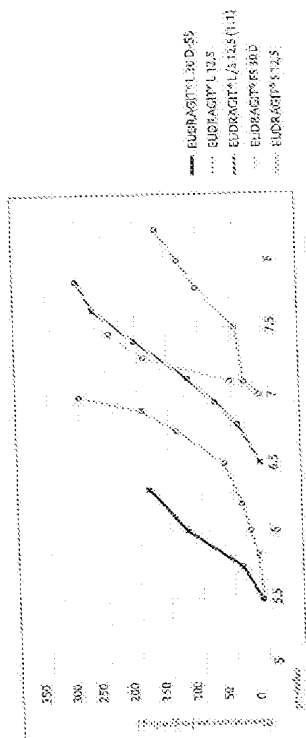
If you need to protect your active from the gastric fluid and would like to improve drug effectiveness – EUDRAGIT® L and S polymers are your preferred choice of coating polymers. They enable targeting specific areas of the intestine. Pharma Polymers offers a broad product portfolio of enteric EUDRAGIT® grades which dissolve at rising pH values. In addition, the different grades can be combined with each other, making it possible to adjust the dissolution pH, and thus to achieve the required GI targeting for the drug.

EUDRAGIT® Polymer	Appearance	Dissolution properties
L30 D-55	30-65% Aqueous Dispersion	Dissolution above pH 5.5
L100-S5	Powder	Dissolution above pH 5.5
L100	Powder	Dissolution above pH 6.0
L12.5	12.5% Organic Solution	Dissolution above pH 6.0
S100	Powder	Dissolution above pH 7.0
S12.5	12.5% Organic Solution	Dissolution above pH 7.0
FS30 D	30% Aqueous Dispersion	Dissolution above pH 7.0



Targeted drug release in the colon is required for local treatment of intestinal disorders such as Crohn's disease, ulcerative colitis or intestinal cancer. It is also required for drugs that are poorly soluble in the upper gastrointestinal tract. Moreover, the gastroresistance of the coating ensures that the oral dosage form is patient compliant. The preferred coating is EUDRAGIT® FS 30 D, which combines release in the colon with the following technical advantages:

- aqueous processing
- highly flexible coatings
- suitable for multiparticulate tablet preparation



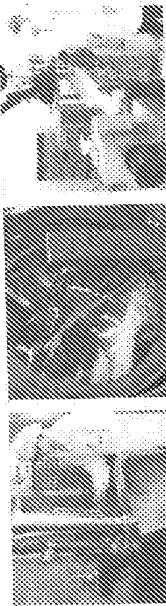
Take your active to the right place. When it's a long way to the target and still the target has to be hit exactly, EUDRAGIT® offers the right solution.

## Moisture Protection and Odor/Taste Masking

Do you need to protect your active from moisture or light and increase patient compliance by masking tastes and odors?

EUDRAGIT® E polymers help you to seal sensitive actives and increase patient compliance by masking tastes and odors. Even thin layers of EUDRAGITs provide the desired effect.

EUDRAGIT® Polymer	Substrate	Excipient/Target
E 100	Granules	Sachets in generic fluid up to pH 3.0
E 12.5	12.5 % Organic Solution	Sustained and permeable above pH 3.0
E 90	Powder	

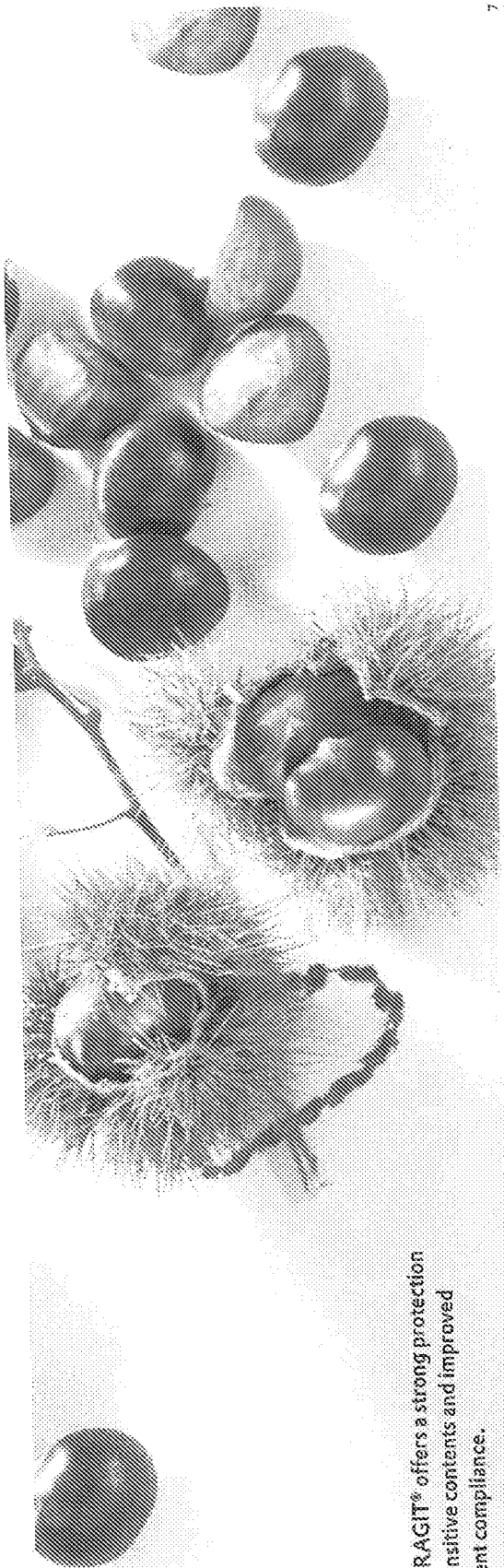


Our protective polymers are suitable for aqueous or organic coatings and can be applied in a

melt extrusion process. During the melt extrusion process the cationic EUDRAGIT® E polymer interacts with the anionic active which provides excellent taste masking properties.

### Take advantage of protective EUDRAGIT® coatings:

- pH-dependent drug release
- Protection of sensitive actives
- Taste and odor masking
- Moisture protection
- Economical application
- Improved passage of the dosage form
- Smooth and glossy surfaces, good color coating



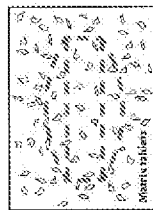
EUDRAGIT® offers a strong protection of sensitive contents and improved patient compliance.

## Time-Controlled Drug Release

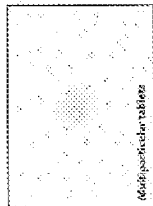
Whether you need your drug to release over a specific period of time or would like to benefit from the advantages of multi-particulate or matrix formulations — EUDRAGIT® can help you achieve your desired release profile. Drug delivery can be controlled throughout the entire gastrointestinal tract to increase the therapeutic effect and patient compliance. Different polymer combinations of EUDRAGIT® RL and RS grades allow custom-tailored release profiles to achieve the desired drug delivery performance.

EUDRAGIT® Grades	Availability	Swelling Properties
RL 100	Granules	Insoluble
RL PO	Powder	High permeability
RL 30 D	30 % Aqueous Dispersion	pH-independent swelling
RL 72.5	72.5 % Organic Solution	
RS 100	Granules	Insoluble
RS PO	Powder	Low permeability
RS 30 D	30 % Aqueous Dispersion	pH-independent swelling
RS 72.5	72.5 % Organic Solution	
NE 30 D	30 % Aqueous Dispersion	Insoluble, low permeability
NE 40 D	40 % Aqueous Dispersion	pH-independent swelling
NE 30 D	30 % Aqueous Dispersion	No plasticizers required
		Highly flexible

There are two basic formulation options:

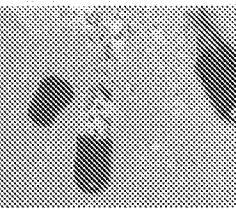


Matrix tablets



Multi-particulate tablets

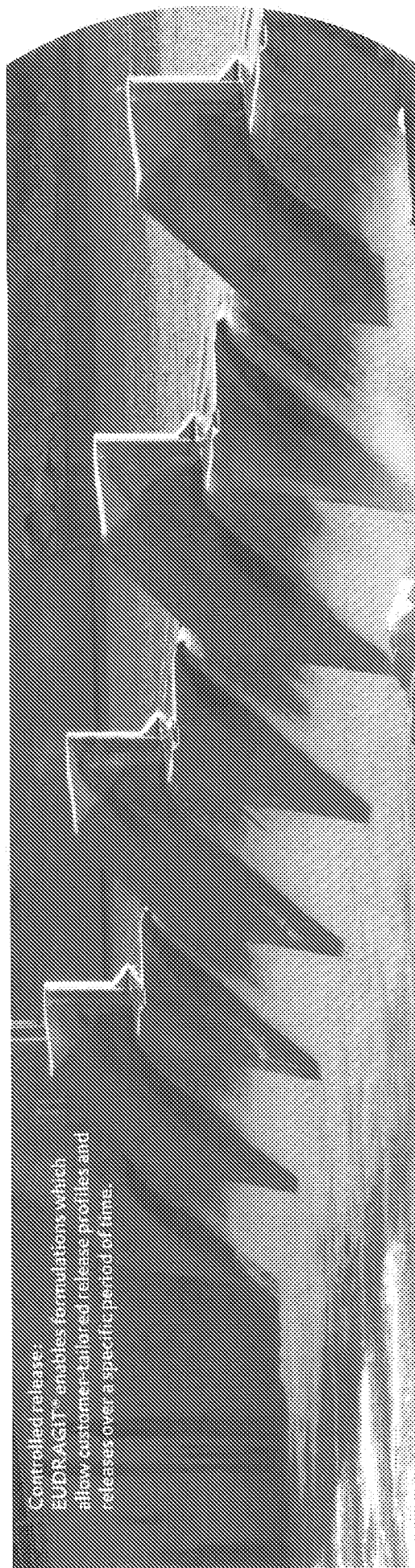
EUDRAGIT® serves as a matrix within which the active ingredient is embedded. The matrix structure is obtained by direct compression, granulation, or melt extrusion. EUDRAGIT® NM 30 D is particularly suitable for granulation processes in the manufacture of matrix tablets, release a constant drug quantity per unit of time (multi-unit dosage form).



### Benefit from EUDRAGIT® coatings with sustained release:

- Time-controlled release of active ingredients
- Therapeutically customized release profiles
- Higher patient compliance due to reduced number of doses to be taken
- Cost-effective processing

Controlled release:  
EUDRAGIT® enables formulations which allow customer-tailored release profiles and releases over a specific period of time.



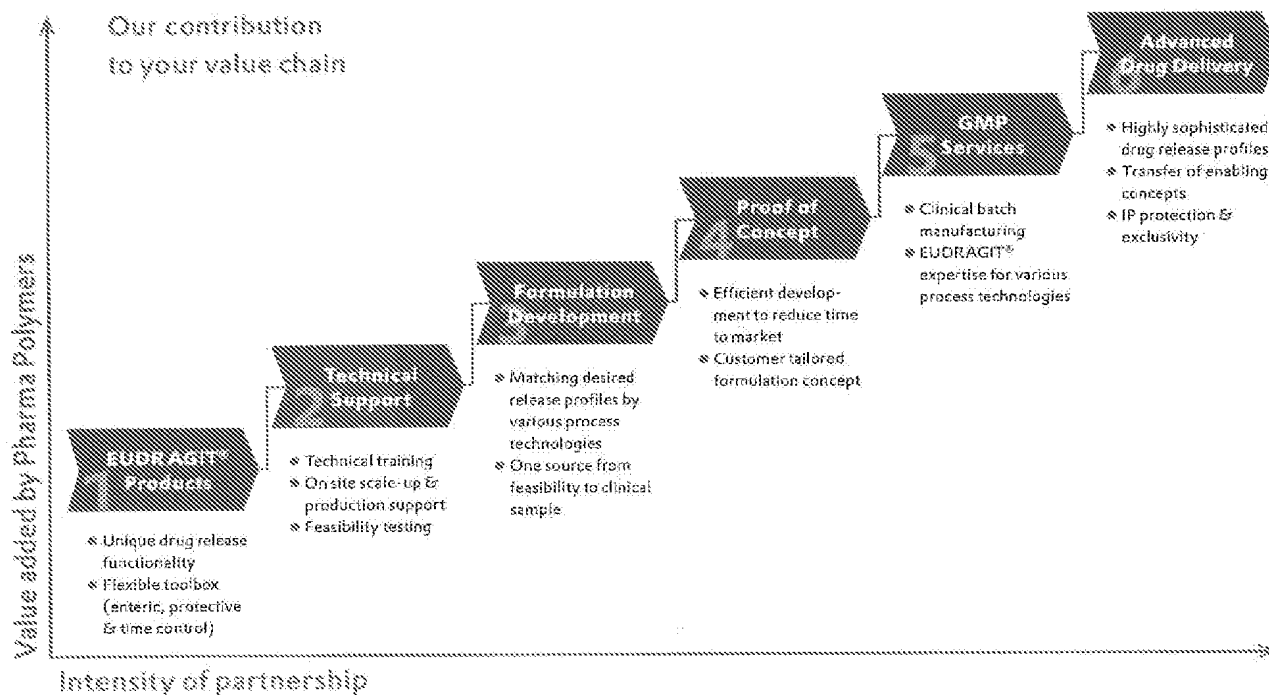
## Market Strength by means of Strategic Partnership

Pharma Polymers, a business line of Evonik Industries, offers the complete line of EUDRAGIT® products and related services along the value chain of our customers. For over 50 years we have proven our reliability as a quality partner to the pharmaceutical industry. Our state of the art services cover various stages of the development processes, including

- ◆ advanced technical support
- ◆ formulation development
- ◆ proof of concept
- ◆ GMP services.

Our customers see us as a strategic partner for their developments of solid oral dosage forms with a targeted drug release profile. By using our value adding business model our customers get:

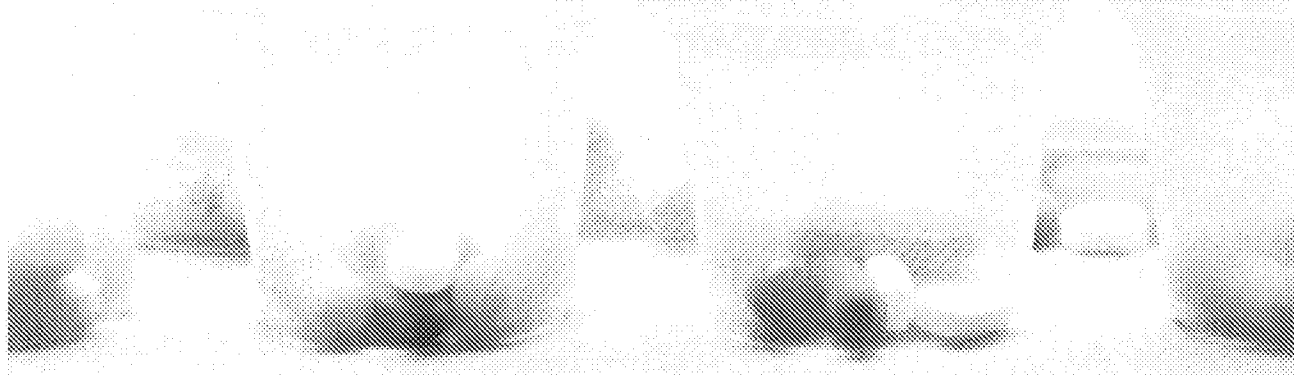
- ◆ increased efficiency in their R&D and manufacturing processes
- ◆ new drug delivery technologies
- ◆ reduction of the time to market for their developments
- ◆ professional management of their product's life cycle





# EUDRAGIT®

at a glance



**EUDRAGIT®**  
Products

**2** Technical  
Support

**3** Formulation  
Development

**4** Proof of  
Concept

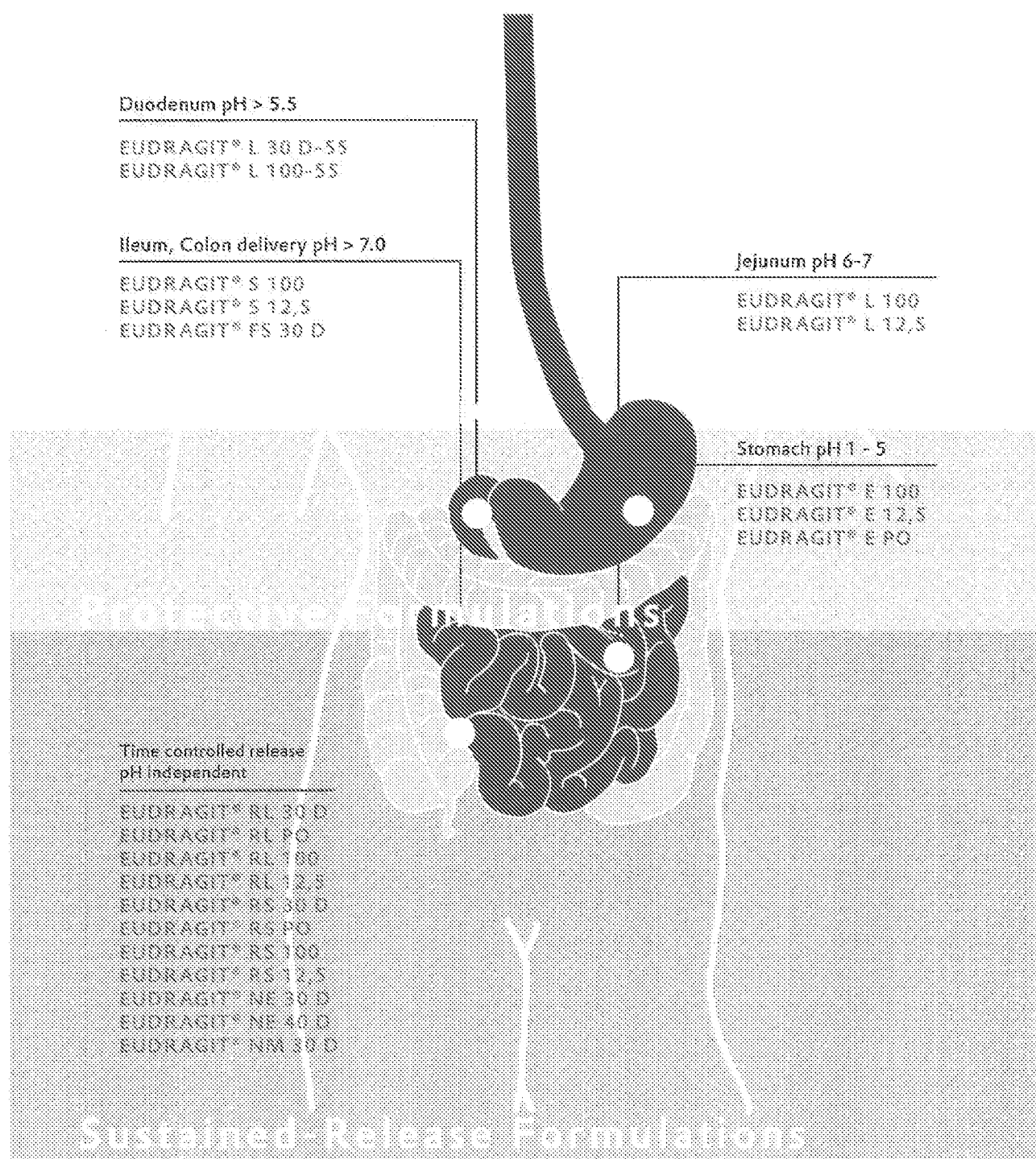
**5** GMP  
Services

**6** Advanced  
Bulk Delivery



# EUDRAGIT®

## Versatile Polymers for Oral Solid Dosage Formulations



# EUDRAGIT®

## Versatile Polymers for Oral Solid Dosage Formulations

Applications	EUDRAGIT® Grades	Product Form	Functionality	Dissolution Properties	Advantages	Monographs & USP/Ph
Enteric Formulations	EUDRAGIT® L 100-53	Powder				
	EUDRAGIT® L 30-55	Aqueous Dispersion 30%				
	EUDRAGIT® L 100	Powder				
	EUDRAGIT® L 13.5	Organic Solution 12.5%				
	EUDRAGIT® S 100	Powder				
Drug delivery in solution	EUDRAGIT® S 12.5	Organic Solution 12.5%				
	EUDRAGIT® RS 30-5	Aqueous Dispersion 30%				
	EUDRAGIT® E 40	Powder				
Colonic delivery	EUDRAGIT® E 100	Granules				
	EUDRAGIT® E 12.5	Organic Solution 12.5%				
	EUDRAGIT® RS 30-5	Aqueous Dispersion 30%				
Protective Formulations	EUDRAGIT® E 100	Granules				
	EUDRAGIT® E 12.5	Organic Solution 12.5%				
	EUDRAGIT® E 40	Powder				
Moulding coatings: • Taste masking • Odor masking • Moisture protection • Light protection	EUDRAGIT® E 100	Granules				
	EUDRAGIT® E 12.5	Organic Solution 12.5%				
	EUDRAGIT® E 40	Powder				
Sustained-Release Formulations	EUDRAGIT® RL 30-5	Aqueous Dispersion 30%				
	EUDRAGIT® RL 10-5	Powder				
	EUDRAGIT® RL 10-5	Granules				
	EUDRAGIT® RL 12.5	Organic Solution 12.5%				
	EUDRAGIT® RS 30-5	Aqueous Dispersion 30%				
	EUDRAGIT® RS 10-5	Powder				
	EUDRAGIT® RS 10-5	Granules				
	EUDRAGIT® RS 12.5	Organic Solution 12.5%				
	EUDRAGIT® NE 30-5	Aqueous Dispersion 30%				
	EUDRAGIT® NE 40-5	Aqueous Dispersion 30%				
Sustained-release formulations, suitable for matrix structures and tablets with other EUDRAGIT® grades	EUDRAGIT® NE 30-5	Aqueous Dispersion 30%				
	EUDRAGIT® NE 40-5	Aqueous Dispersion 30%				
	EUDRAGIT® NE 50-5	Aqueous Dispersion 30%				

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## Delivery and Packaging

	Grade	Unit (kg, net)	Packaging	Storage	Flash Point
Aqueous Dispersions	EUDRAGIT® L 30 D-SS	5, 30, 200*, 1000**			
	EUDRAGIT® NE 30 D	5, 30, 600**			
	EUDRAGIT® NE 40 D		Polyethylene canister	Protect from freezing. Store at controlled room temperature.	
	EUDRAGIT® NM 30 D		Polyethylene drum*		Not flammable
	EUDRAGIT® RS 30 D	5, 30	Polyethylene container***		
	EUDRAGIT® RL 30 D			Protect from freezing and do not store above 25 °C (77 °F).	
	EUDRAGIT® FS 30 D			Protect from freezing. Store between +5 °C and +10 °C (41 °F and 50 °F).	
Solid Substances	EUDRAGIT® L 100				
	EUDRAGIT® L 100-SS				
	EUDRAGIT® S 100	5, 20			
	EUDRAGIT® RS 100		PP box with polyethylene inner bag	Store at controlled room temperature. Protect against moisture.	
	EUDRAGIT® RL 100				Not flammable
	EUDRAGIT® RS PO				
	EUDRAGIT® RL PO				
	EUDRAGIT® E 100			Protect from warm temperatures. Protect against moisture.	
Organic Solutions	EUDRAGIT® E 100	10		Store at temperatures up to 25 °C (77 °F). Protect against moisture.	
	EUDRAGIT® E 12,5				-15 °C (5 °F)
	EUDRAGIT® L 12,5	4, 20, 150		Protect from warm temperatures. Store in tightly closed containers.	
	EUDRAGIT® S 12,5		Steel drum with exterior lacquer coat and polyethylene lining	Protect from warm temperatures. Store in tightly closed containers. Do not store at temperatures below 10 °C (50 °F).	-13,5 °C (56,3 °F)
	EUDRAGIT® RS 12,5	4, 20		Protect from warm temperatures. Store in tightly closed containers.	-15 °C (5 °F)
	EUDRAGIT® RL 12,5				

**Stability:** Minimum stability dates are stated on the product labels and batch related certificates of analysis. Storage stability data is available upon request.

Further information is available  
from the following addresses:

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FAX +81 3 5323-8789  
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® = registered trademark

EUDRAGIT® = reg. Trademark of Evonik Röhm GmbH, Darmstadt, Germany



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